



الإجابة النموذجية لامتحان الكيمياء الاليفاتية (2)

ك 213

(نصف ورقة امتحانية)

الفرقة : الثانية

الشعبة : كيمياء خاص

التاريخ : الخميس 2017 / 1 / 26

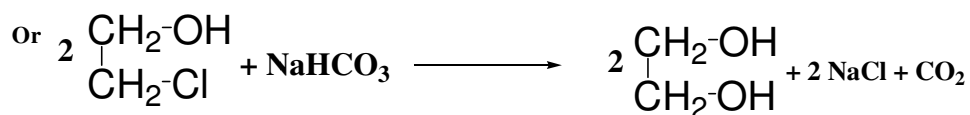
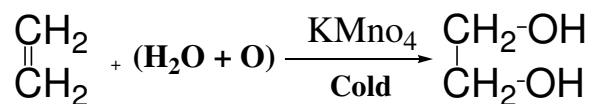
الممتحن : د/ عبد المتعال عبدالمجيد الشيخ

قسم : الكيمياء

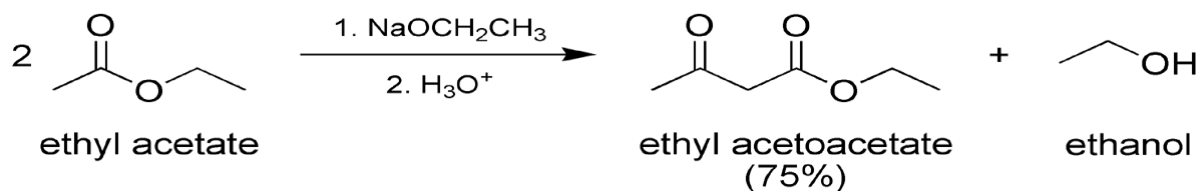
كلية : العلوم

[Q2] (A) Show how can you synthesize each of the following: (Select only Six) [12 Marks]

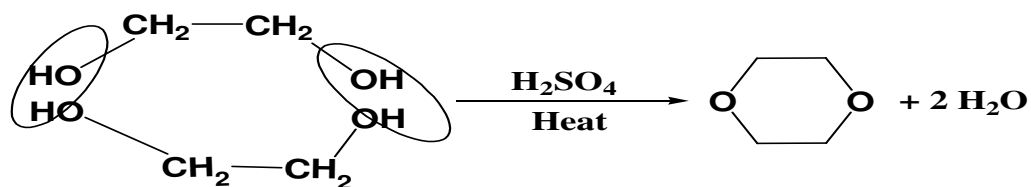
i. Ethylene glycol



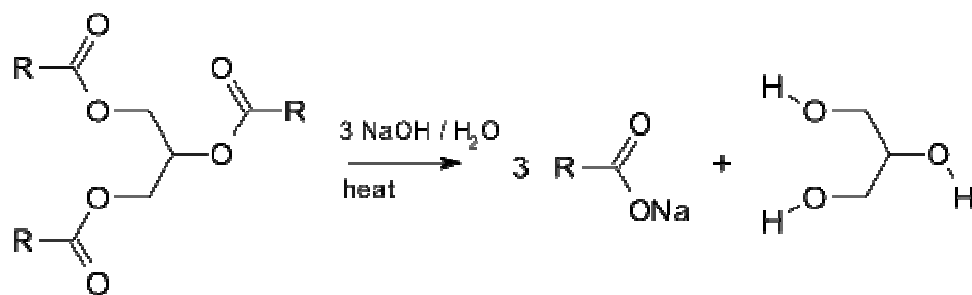
ii. Ethylacetoacetate



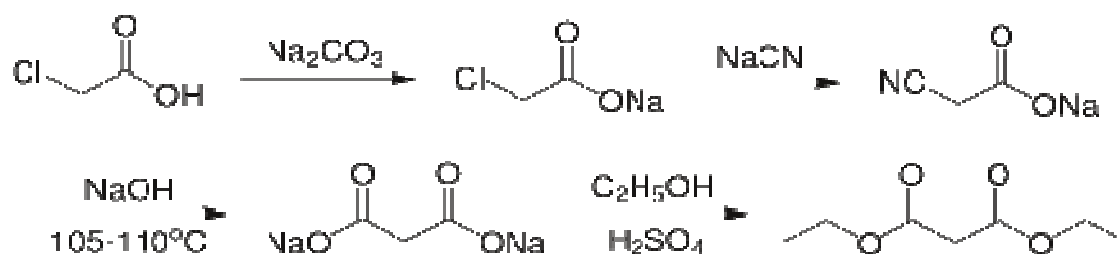
iii. Dioxane



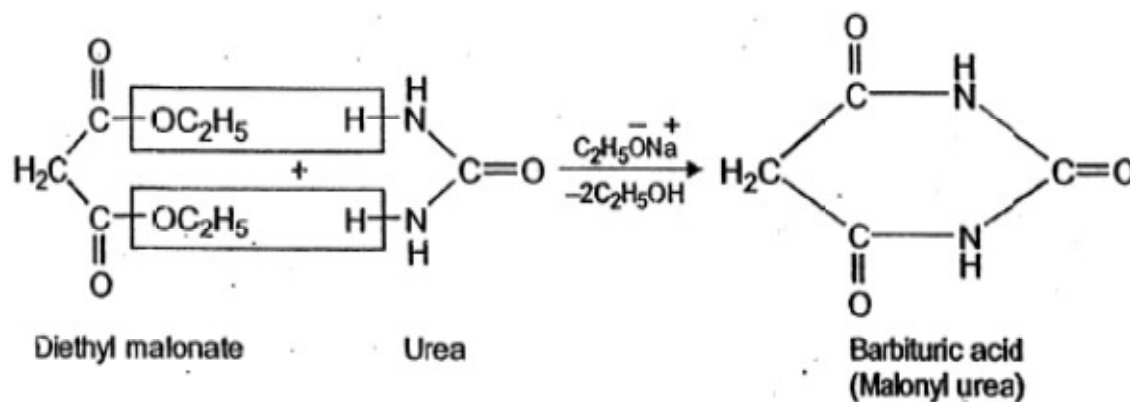
iv. Glycerol



v. Diethylmalonate



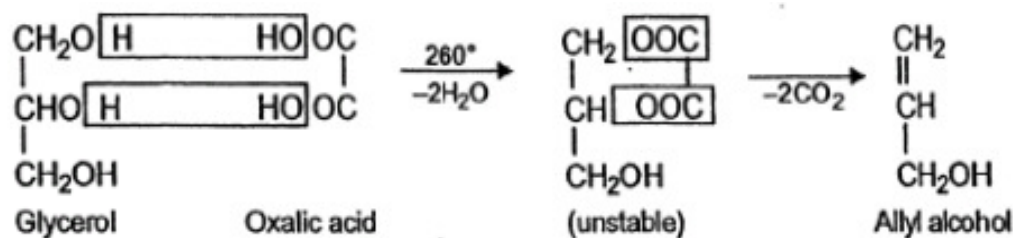
vi. Barbituric acid



vii. Alanine

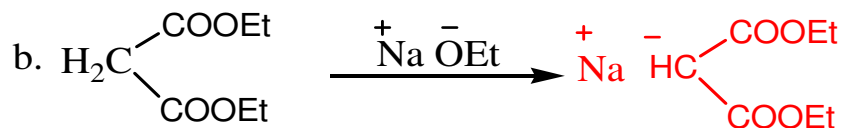
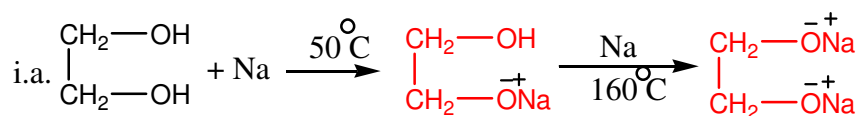


viii. Allyl alcohol

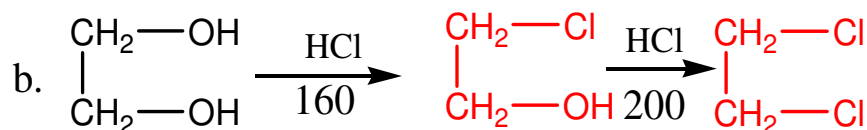
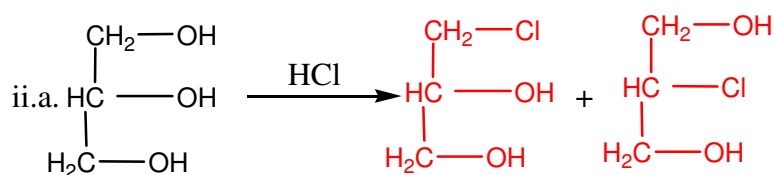


(B) What is the Action of :**[8 Marks]****i. Na. metal or Na/ Ethoxide On:** a. Ethylene glycol

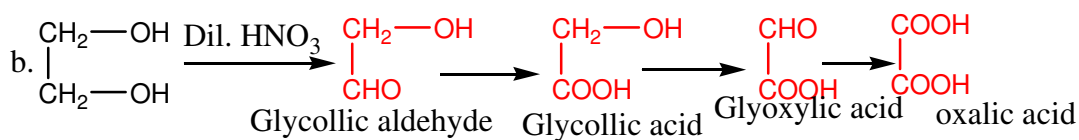
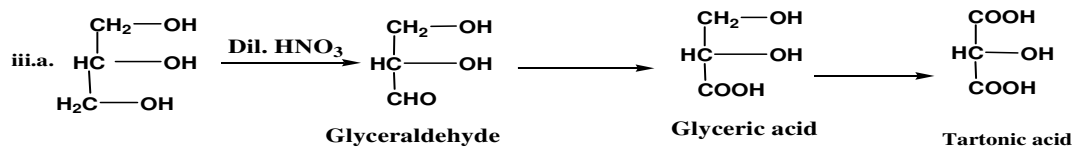
b. Diethyl malonate

**ii. HCl On:** a. Glycerol

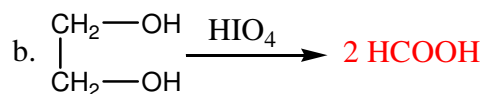
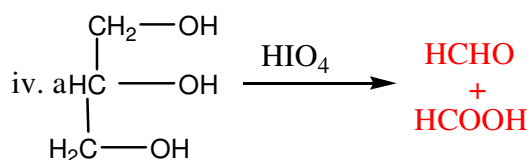
b. Ethylene glycol

**iii. Dil HNO₃ On:** a. Glycerol

b. Ethylene glycol

**iv. HIO₄ On:** a. Glycerol

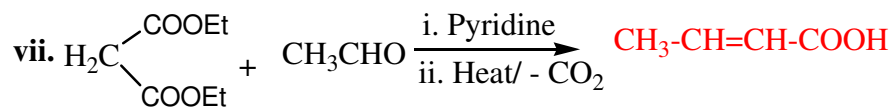
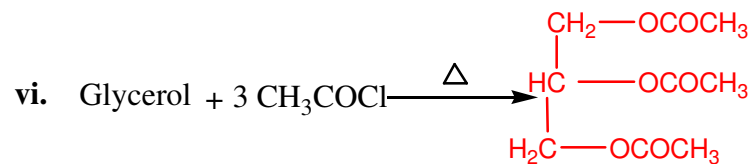
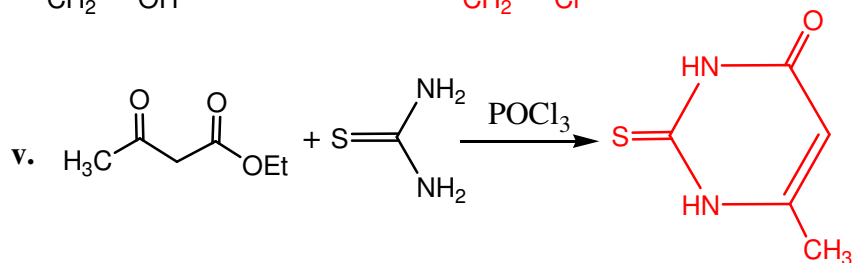
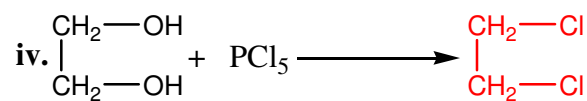
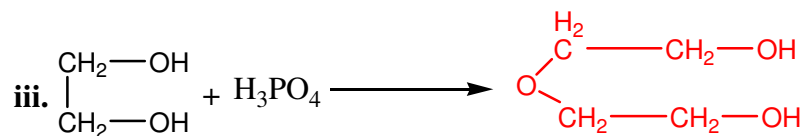
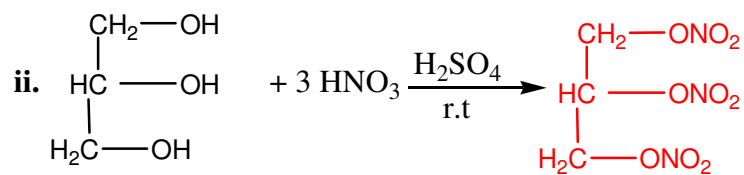
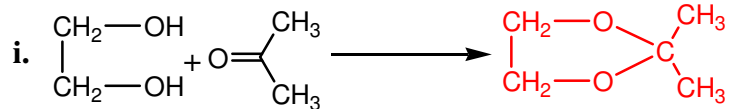
b. Ethylene glycol



[Q3] (A) Complete the following equations:

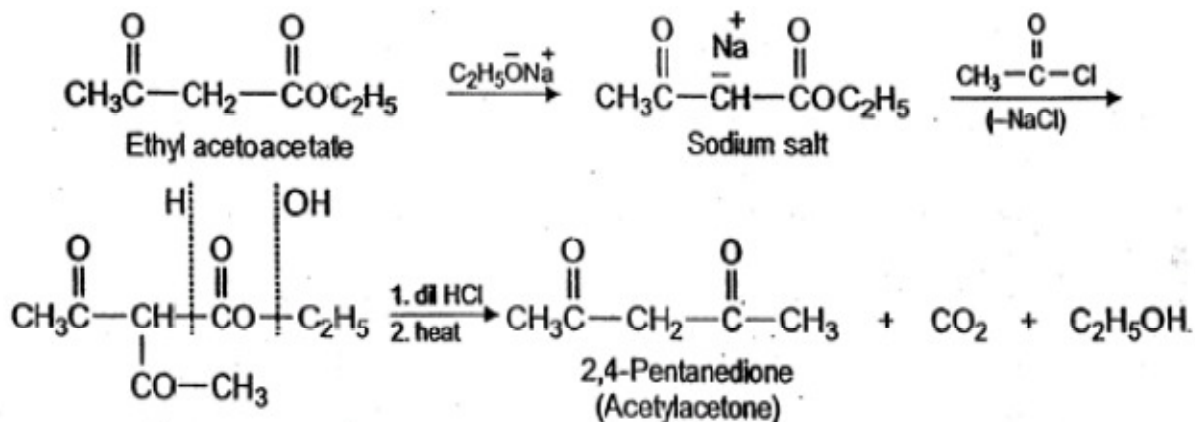
(Select only Five)

[10 Marks]

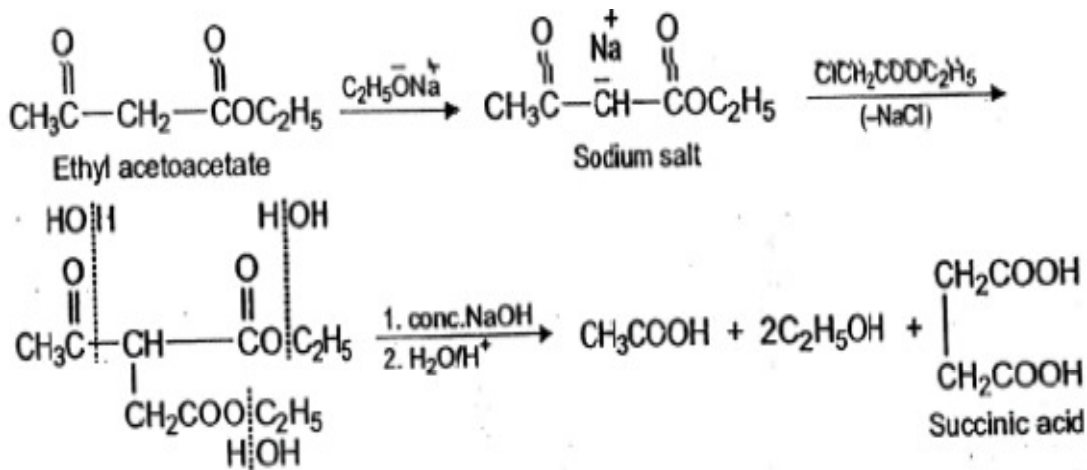


(B) Active methylene compounds are versatile synthetic reagents, Show how can you use ethyl acetoacetate or Diethylmalonate to synthesize each of the following compounds:
 (Select only Five) [10 Marks]

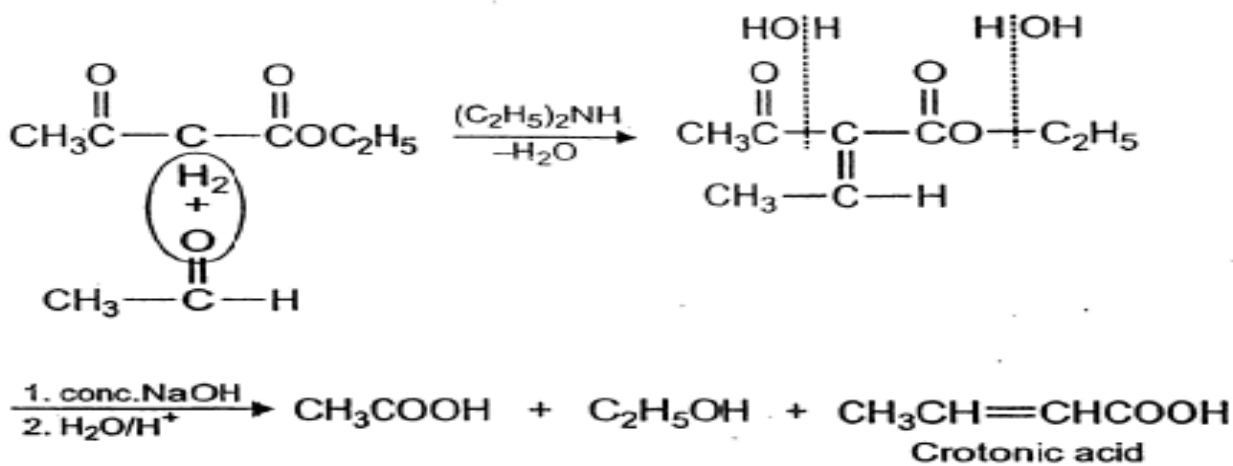
i. Acetylacetone



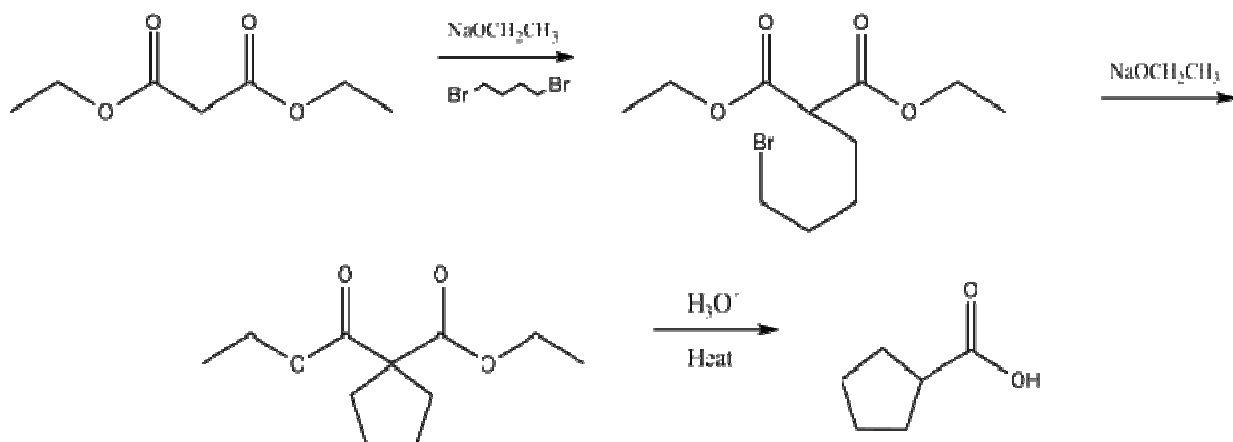
ii. Succinic acid



iii. Crotonic acid



vi. Cyclopentanoic



All the best wishes,

Dr. Abdelmotaal El-Sheikh